

EXPERIENCE SUMMARY

More than 33 years waterway engineering experience. In 1990, formed Hartman Consulting with offices in Seattle, San Francisco and Houston. As a consultant, has provided engineering, planning, and coordination for river, estuary, and coastal projects. Career has emphasized waterway engineering, dredging and disposal, and contaminated sediment remediation. Technical expertise includes: open channel hydraulics; sediment transport; coastal hydrodynamics; and a working knowledge of waterway construction and dredging equipment capabilities. Has assisted contractors, project owners, and agencies in equipment selection, budget estimates, project layout, hydraulic and hydrologic concerns and permitting issues for projects throughout the United States and internationally. Worked with multi-disciplinary teams on studies for new work channel deepening, sediment remediation, and development of beneficial uses of both clean and contaminated dredged sediments. Activities include dredge planning, project design, cost analysis, environmental coordination and construction of navigation projects. Is one of the instructors for the U.S. Army Corps of Engineers annual Dredging Fundamentals Course, as well as the Corps Dredging Contract Administrator Course.

PROFESSIONAL AFFILIATIONS

American Society of Civil Engineers, Member
Coastal Education and Research Foundation, Member
Consulting Engineers Council of Washington, Member
Coasts, Oceans, Ports and Rivers Institute, Member
International Navigation Association (PIANC), Member
Western Dredging Association, Chairman of the Board
World Dredging Congress, Technical Paper Committee (Orlando, 1989) (Bombay, 1992)
World Dredging Congress Executive Committee (Las Vegas, 1998) (Kuala Lumpur, 2001)

REGISTRATIONS/CERTIFICATIONS

Professional Civil Engineer, 0025544, WA, 06/22/1997
Professional Civil Engineer, 7365, OR,
Land Surveyor, 1210, OR

EDUCATION

BS, Civil Engineering, Oregon State University, 1968
MS, Civil Engineering (Major: Coastal and River Hydraulics, Minor: Business Management), Oregon State University 1976

REPRESENTATIVE PROJECT EXPERIENCE

Corps of Engineers Dredge Curriculum; 1982 - Mr. Hartman has developed curriculum and instructed Corps of Engineers and Navy personnel from throughout the United States in four separate courses: Dredge Inspectors Dredging for Engineers and Estimators, Dredge Contract Administration, and Dredging Fundamentals. Subject matter encompasses pipeline, hopper and mechanical dredge techniques, plan and specifications development, project layout, production criteria, channel design, hydrosurveys, and application of Corps' Dredge Material Research Program to project planning and disposal area design.

Gates Estate Shoreline, Bellevue, WA - Principal in charge for the design of modifications to the Lake Washington Shoreline for this large residential estate. Design included stabilization of the shoreline and creation of gravel beaches, an offshore reef, and salmon spawning beds. Project responsibilities included analysis and design review for an environmentally functional and stable shoreline. The shoreline design consisted of a gravel beach with a small cove, an offshore rock reef, and an offshore cobble reef. Design review was provided for the architects on their permit and contract drawings.

Nearshore Fill Study, Port of New York/New Jersey- Mr. Hartman is principal in charge of a study on the development of nearshore dredge fills for development of Marine Terminal facilities in the United States. The work is for the Port Authority of New York/New Jersey to help in the design, permitting and construction of new terminal facilities for container cargo.

Mohawk River Remediation, Niagara Mohawk, NY - Mr. Hartman is project manager for the development of remediation alternatives to remove coal tar and NAPL from the Mohawk River and the Utica Harbor. Work includes sediment characterization, river hydrodynamic analysis, cost estimates. The alternatives include natural recovery, dredging and disposal of contaminated sediment.

Mt. St. Helens Cowlitz-Toutle River 50 Year Dredge & Disposal Plan - Mr. Hartman was the project manager in charge of preparing this 50 year dredge and disposal plan for the Cowlitz-Toutle Rivers. The plan was developed as an alternative for comparison with physical (dam construction) control options from the EIS that was prepared for the project.

Passenger-Only Ferry Wake Impact Analysis, Rich Passage, WA - Principal in charge for this WSDOT study to determine the impact of ferry wakes on specific shorelines including the South Beach Road section of Bainbridge Island. The study required analysis of the ongoing natural wave and weather processes, the existing shoreline conditions, bulkhead design, and waves generated from vessel wakes.

Redondo Beach Seawall, Impacts Analysis, Redondo, WA - Principal in charge for an existing conditions study of this beach and its damaged seawall, and analysis of the proposed design to determine scour impacts on the beach of the new design. Elements included a wave energy study for the shoreline, an analysis of littoral transport for the area, calculation of gravel transport versus sand transport, prediction of the five and fifty year waves for the site, prediction of scour due to the seawall and anticipated scour due to the addition of a cantilever structure.

Standards for Confined Disposal of Contaminated Sediments, WA - Provided technical assistance to the Washington State Department of Ecology for the development of equipment standards, mitigation requirements, siting criteria, and cost estimates for the confined disposal of contaminated marine sediments. He was a primary author for the document titled "Standards for Confinement of Contaminated Dredged Sediments".

Wave Loading on a Floating Passenger-Only Ferry Landing, Puget Sound, WA - Principal in charge for this analyses for WSDOT to determine wave conditions to which the floating ferry landing might be subjected and calculated the loads that such waves might apply to land structures. The project also included conducting a current study at the Southworth ferry terminal that involved placing and tracking drogues in the Colvos Passage.

PGE Station L, Willamette River, OR - Mr Hartman completed design review and cost estimate for placement of a cap with armoring to confine PCB contaminants along the east bank of the Willamette River in Portland, Oregon. Review was done pursuant to equipment operation capability to meet cap requirements and to avoid sediment re-suspension at site.

New Bedford Harbor PCB Remediation, MA - Was responsible for preparation of technical review on dredging technologies for proposed remediation dredging. Reviewed and revised technical reports on water quality treatment for hydraulic dredging option. Presently assisting in the development and final design of dredging, transport and dewatering to complete the site remediation.

Feasibility Study, Coney Island Creek, NY - Responsible for alternatives development, identification of equipment, cost estimate for draft and final Feasibility Study to remediate the Coney Island Creek adjacent the former Brooklyn Borough Gas Works Site.

Hylebos Waterway Superfund Sediment Remediation Project, Tacoma, WA - Responsible for engineering design and alternatives analysis for sediment remediation on the Hylebos Waterway Superfund Site. The project involves assisting in the evaluation of the nature and extent of contaminated sediments, determining historical sedimentation in-fill, developing the preliminary dredging plan, preparing dredging disposal siting engineering analysis, evaluating upland, nearshore, and Confined Aquatic Disposal (capping) sites, and preparation of all baseline maps.

Sitcum Waterway Remediation, Blair Waterway Dredging, and Milwaukee Waterway Fill and Mitigation Project, Tacoma, WA - Was actively involved with all phases of this complex aquatic remediation and commercial development project. Design engineer for this project involving remediation of sediments from the Sitcum and Blair Waterways, expanding the navigation channel in Blair Waterway for deep draft vessels, and creating new terminal space with contaminated sediment infill at the Milwaukee Waterway. Provided construction oversight during project completion.

Dredge Lake Remediation, Memphis, TN - Completed dredging design, cap placement, and confined disposal site for removal of fine grain sediment in an old dredge lake. Contamination was associated with outfall discharge from adjacent chemical plant.

St. Paul Waterway Remedial Action Plan, Tacoma, WA - Developed the dredging and capping plan which was successfully used to remediate contaminated sediments at the Simpson Kraft Mill in Tacoma, Washington. The project included a successful habitat development for mitigation requirements. This was the first successfully completed sediment remediation project completed pursuant to CERCLA regulations.

U.S. Navy Everett Homeport, Puget Sound, WA - Dredging consultant for the development of dredging and disposal design and cost estimate for one million cubic yards of contaminated sediments, and disposal alternative analysis, and project manager for monitoring plan development to meet state water quality certification. His work included development of sediment transport analysis and a two-dimensional finite element computer model.

Lockheed Marine Sediment Remediation Plan, Seattle, WA - Developed the dredge and fill alternative for inclusion in the joint NEPA/SEPA EIS for the project. Addressed alternative methods for dredging, handling, transport and confinement of contaminated sediment.

Port of Everett, Stage I Marine Terminal Improvements, Everett, WA - Developed the dredge and fill plan to implement the Port's Marine Terminal Improvement Project. Plan addressed dredging and confinement of contaminated sediment. Was responsible for the final design, bid and advertisement documents, and cost estimate for the marine terminal construction contract. Construction oversight was provided by Hartman Associates for the Port of Everett.

Cascade Pole Sediment Remediation Project, Olympia, WA - Provided feasibility engineering design of remediation for marine sediment. Identified equipment, cost estimates, and alternative methods for long term remediation of sediments with nonaqueous phase liquid (NAPL) and PAH contamination. Completed a Sediment Resuspension Analysis to determine possibility of contaminated sediment migration at the Cascade Pole Superfund. Completed a pilot test to evaluate equipment capability to remove sediment where NAPL and DNAPL were present without recontamination of the clean replacement cap.

Sumatra Island Waterways, Jakarta, Indonesia - Mr. Hartman was dredging consultant for Louis Berger on this Asian Development Bank program to improve navigation conditions on waterways in the

island of Sumatra, Indonesia. Mr. Hartman was responsible for site investigation of over 250 miles of waterway on the Indragiri, Batanghari and Siak Rivers; development of cost estimates for channel improvement including dredging, bank stabilization, and navigation aids; and work tasks for completion of plans and specifications to complete the channel improvement.

Deep Draft Channel Development, Port of Corinto, Nicaragua - Consultant working for Louis Berger, Mr Hartman was responsible for completion of a preliminary channel design, dredge plan and cost estimates for channel development from deep water in the Pacific Ocean into the berthing area at the Port of Corinto. Channel design included determination of design vessel, navigation channel depth and width, existing wave and current conditions, sediment infill and breakwater effectiveness. Dredge and disposal plans included identification of sediment type, dredging equipment and disposal options, and project costs. Navigation aids and maintenance requirements for a 20-year project life was included in the analysis and cost estimates.

Overburden Removal for Mining, Namibia, South Africa - Mr. Hartman traveled to Oranjemund, Namibia and completed a preliminary analysis and final engineering for the hydraulic dredging of overburden from an industrial mine site located in the coastal shoreline. Work also included a design for the placement of the overburden as a seawall to protect the ongoing mining operations along the shoreline. The volume of material to be removed and placed as a seawall was approximately 25 million cubic meters of salty sand. The project area is approximately 1,451,000 square meters. Project completion is expected within 5 years after start of overburden removal.

Hidrovia Channel Design & Dredging, Argentina & Brazil - Consultant working for Louis Berger responsible for developing the navigation channel design, and the dredging and disposal plan for shallow draft navigation on 2500 kilometers of river. Design components included equipment selection for new work and maintenance dredging, disposal site locations, detailed cost estimates, and plans and specifications.

White Nile River, Sudan, Africa - Mr. Hartman provided on-site investigation and completed a study for channel dredging and channel stabilization in the upper reaches of the White Nile near Juba, Sudan. The project was completed for U.S. AID as part of a navigation and barge transport study for barge haul of food, fuel, and fertilizer products from Khartoum to Juba. Study findings included recommendations on shoreline structures and channel realignment for deep channel stabilization, dredging methods, navigation ranges, and hydrographic surveying techniques.

Navigation Study on the Indus River, Pakistan - Dredge consultant working for Louis Berger International to evaluate development of river navigation for commercial transport of food products and petro-chemicals. The project included the hydraulic analysis of approximately 200 miles of the Indus River, including the river discharge frequency and related channel stabilization, sedimentation and dredging requirements for tug and barge. Also assisted in the analysis of using the existing irrigation channels to supplement access from the Indus River to the major ports of Karachi and at Islamabad.

St. George Island, Bering Sea - Responsible for dredging evaluation, wave environment analysis and expert witness services for a dredging project at St. George Island in the Bering Sea. This included overseeing the evaluation of both dredging operations and environmental conditions for the dredging project. The project also included gathering wind data for the period of dredging operations and which was used to hindcast the wave climate during the time period of the project. The wave climate was used to evaluate silting conditions during the winter period between dredging seasons and to determine the impacts of silting on the dredging project.

Pampanga Delta Waterway, Luzon, Republic of the Philippines - Provided expert consultant services to the US Corps of Engineers for sedimentation control, removal and stabilization on the Pasig-Potrero Basin and the Guagua-Pasac-San Fernando waterway. Lahar deposits moving downstream filled the

Pampanga Bay Delta and the waterways. Lahar sediments are a result of the Mt. Pinatubo eruption in Luzon, Philippines. Channel clearing was required to reduce and avoid extensive flooding during the monsoon season.

Feasibility of Dredging the Entrance Channel, Port Amamapare, Papua New Guinea - Completed expert review of dredging alternative for private dredging contractor. Review included feasibility analysis for reducing operation costs to load deep draft bulk cargo vessels at Port Amamapare. Dredging feasibility analysis included identification of equipment; site condition impacts on dredging methods and anticipated future maintenance requirements for an open-water entrance channel site. Cost estimates included feasibility level costing.

Evaluate Dredge Plant for Mineral Sands Excavation, Eneabba, West Australia - Mr. Hartman traveled to Eneabba, West Australia to inspect hydraulic pipeline dredge operation to excavate mineral sands from coastal dune area. Work included daily inspection of dredge operations, review of previous plant records, visit to the proposed new Pharaohs Flat mine site, evaluation of geotechnical data. Product was recommendation on plant improvements, predicted production rate for existing dredge plant at new mine site.

PRIOR EXPERIENCE

Dalton, Olmsted and Fuglevand, Inc., Silverdale, WA; 03/02 – Present – Senior Consultant, Principal

Foster Wheeler Environmental Corporation; Bothell, WA; 03/01 – 03/02 – Corporate Technical Lead, Coastal and Waterway Engineering.

Foster Wheeler Environmental Corporation; Bellevue, WA; 02/97 – 03/01 - National Program Manager, Ports, Harbors and Waterways, Associate, Waterway Engineering.

Hartman Associates, Inc.; Seattle, WA; 07/90 -02/97 - President, Owner.

Ogden Beeman & Associates, Inc.; Federal Way, WA; Vice President, Principal; 04/88 -07/90 – Manager, Puget Sound Regional Office.

Ogden Beeman & Associates, Inc.; Portland, OR; 11/78 - 04/88 - Vice President, Principal, Civil Engineer.

U.S. Army Corps of Engineers; Portland, OR; Chief of the Dredging Operations Section; 07/69 - 11/78 - - Responsible for the planning, scheduling, cost estimating and preparation of plans and specifications for hopper, pipeline, and mechanical dredge work for the Oregon Coast.

Oregon State University; Graduate School of Civil and Ocean Engineering, Corvallis, OR; 08/74 - 06/76 - Graduate School, Major in Coastal/River Engineering, Minor in Management Science.

U.S. Army Corps of Engineers; Portland, OR; 06/68 - 06/69 - Portland District, Engineer in Training Program.

TEACHING POSITIONS:

Lead Instructor, Dredge Inspectors Short Course, US Army Corps of Engineers (1982/1985)

Lead Instructor, Dredge Estimating for Engineers, US Army Corps of Engineers (1983/1985)

Lead Instructor, Dredging Fundamentals, US Army Corps of Engineers (1985/2002)

Lead Instructor, Dredge Contract Administration, US Army Corps of Engineers (1985/2002)

Instructor, "Engineering of Confined Disposal Sites", Engineering Caps and CDF's to Withstand Coastal Storms and River Floods", Berkley, California, through the University of Wisconsin-Madison, College of Engineering (2001)

Instructor, "Engineering of Confined Disposal Sites", Engineering Caps and CDF's to Withstand Coastal Storms and River Floods", Madison, Wisconsin, through the University of Wisconsin-Madison, College of Engineering (2000)

Instructor, "Understanding Contaminated Sediments", Albany New York through the University of Wisconsin-Madison, College of Engineering (1998)

Instructor, "Managing Contaminated Sediment in Marine Environments", U.S. Navy, Pacific Division, Naval Facilities Engineering Command, Pearl Harbor, Hawaii Through the University of Wisconsin-Madison, College of Engineering, (1997)

Lead Instructor, "How to Develop and Manage Successful Dredging Projects", Seminar Houston, TX, 1996, Los Angeles, CA 1996

Instructor, Short Course, "Flow Lane and Sediment Transport Calculations" for Portland District, Corps of Engineers, 1983

PUBLICATIONS

Evaluation of Estuarine Conditions in Coos Bay, Oregon Using Side Scan Sonar, World Dredging Congress, San Francisco (1976)

Effects of the Rogue and Siuslaw River Jetties, Coastal Sediments 77, ASCE Conference, Charleston (1977)

Dredge Planning for Lake Reclamation, World Dredging Congress, Vancouver, B.C. (1980)

Engineering/Hydraulic Considerations for Dredging Mitigation, Estuarine Mitigation Techniques Workshop, Newport, Oregon (1981)

Selection of In-Water Disposal Site at Pillar Rock Bar, Water Forum 81, ASCE Conference, San Francisco (1981)

Channel and Port Development, White Nile River Between Juba and Khartoum, Sudan; Society of American Engineers, Technical Meeting, Portland, OR (1983)

An Argument for Test Dredging Programs, Pacific Chapter Technical Meeting, WEDA, Seattle (1984)

Sedimentation Rates and Channel Deepening, Mouth of Columbia River (West Coast Regional Coastal Design Conference, ASCE, Oakland (1986)

Side Slope Contribution to Entrance Channel Shoaling; Coastal Sediments 87, ASCE Specialty Conference, New Orleans (1987)

Bedload Transport and Sand Wave Dredging Concepts; WEDA IX, Western Dredging Association, Toronto (1987)

Strategies and Technologies for Dredging Contaminated Marine Sediments; Contaminated Marine Sediments Assessment and Remediation, National Academy Press, Washington D.C. (1989)

Analysis of Transport Processes on Ocean Disposal Mound; Coastal Sediments 91, ASCE Specialty Conference, Seattle (1991)

Boston Harbor/Third Harbor Tunnel, Dredge Sediment Resuspension Analysis; WEDA XIII, Western Dredging Association, Las Vegas (1991)

Innovative Technologies for Dredged Material Disposal, World Dredging, Mining and Construction (1992)

Inland Water Navigation Channel Development, Indus River, Pakistan; WEDA XIV Technical Conference, Western Dredging Association, Atlantic City, NJ (May, 1993)

Analysis of Enclosed Clamshell Bucket for Remediation Dredging, 28th International Navigation Congress, PIANC, Saville, Spain (1994)

Silt Curtain Sediment Release Model for Clamshell Dredging, Proceedings of the Western Dredging XV Technical Conference and 27th Annual Dredging Seminar, San Diego, CA (May, 1994)

Lightweight Aggregate Dredging System (LADS), System Alternative for Contaminated Dredged Sediment, Dredging '94 ASCE Specialty Conference, Lake Buena Vista, FL (1994)

Contaminated Sediment Removal by Conventional Pipeline Dredge for Superfund Site Remediation; Dredging '94 ASCE Specialty Conference, Lake Buena Vista, FL (1994)

Comparing Dredging Costs Across Projects; Dredging '94 ASCE Specialty Conference, Lake Buena Vista, FL (1994)

Waterway Impact on Estuary Entrance Evolution, Proceedings Coastal Zone Canada 94, Nova Scotia (1994)

Enhanced Natural Recovery – A Remediation Alternative, EPRI Manufactured Gas Plant Site Management Sediment Seminar II, St Simons Island, GA (2000)

Remediation of Organic Sediments by Capping in Ward Cove, AK, Environmental Exposition, Boston, Massachusetts (2001)

Placing and Capping Fine-Grained Sediments: A Case History and Economics; Gast Technology Institute Conference on Site Remediation Technologies and Environmental Management in the Utility Industry, Orlando, FL (2001)

Placing and Capping Fine Grained Dredge Material, ASCE Specialty Conference, Dredging '02, Orlando, FL (2002)

Contracts and Cost for Environmental Dredging, ASCE Specialty Conference, Dredging '02, Orlando, FL (2002)

PROFESSIONAL ACCOMPLISHMENTS

Continuing Education Program Scholarship, U.S. Army Corps of Engineers

1992 Dredger of the Year Recipient, Western Dredging Association

1998 Engineering Excellence Grand Award, Consulting Engineers Council of Washington for Sitcum, Blair, Milwaukee Project (Hartman Consultants, Inc.)

TECHNICAL SPECIALTIES

Waterway Development
Dredging and Disposal Operations Planning
Ocean Engineering and Shoreline Stabilization
Open Channel Hydraulics and Sediment Transport

SKILL SET

OTHER DATA

Office Location: Silverdale
DOF Hire Date: 03/04/2002
Years w/Other Firms: 34
Daytime Phone: 360-692-7345